ATTACHMENT J01 **JAN 2005**

Fort McPherson Electrical Distribution System

Table of Contents

List of Tables

J01 Fort McPherson Electrical Distribution System

J01.1 Fort McPherson Overview

Fort McPherson is located in the city of Atlanta, four miles southwest of downtown. It covers 487 acres of well-landscaped grounds. Fort McPherson operates a sub-post, Fort Gillem, which is a 1,500-acre site located 10 miles southeast of Atlanta.

Fort McPherson, named for Maj. Gen. James Birdseye McPherson, a Union Army general killed during the battle for Atlanta in 1864, was established in the summer of 1885 and received its first garrison, nine batteries of the 4th Artillery Regiment, in 1889. Today it is home for Headquarters, Forces Command, whose mission is maintaining the readiness of active Army and reserve units throughout the United States and its territories. It is also the headquarters for the 3rd U.S. Army and Army Reserve Command. Fort Gillem is home for the 1st U.S. Army and the U.S. Army Southeast Region Recruiting Command.

J01.2 Electrical Distribution System Description

J01.2.1 Electrical Distribution System Fixed Equipment Inventory

The Fort McPherson electric distribution system comprises all appurtenances physically connected to the distribution system from the point in which the distribution system enters the Installation, and/or Government ownership currently, starts to the point of demarcation defined by the real estate instruments. Generally, the point of demarcation will be the building footprint. The system may include, but is not limited to, substations, transformers, underground and overhead circuits, utility poles, switches, vaults, and all lighting fixtures that are controlled from the electric distribution system. Lights controlled from inside a building will not be included in this task. The following description and inventory is included to provide the Offeror with a general understanding of the size and configuration of the distribution system. The inventory is assumed to be approximately 90 percent complete. The Offeror shall base the proposal on site inspections, information in the technical library, other pertinent information, and to a lesser degree the following description.

J01.2.1.1 Description

Fort McPherson currently purchases electric power at 12.5 kV from Georgia Power Company (Georgia Power) at a single primary delivery point. The central commercial area is supplied by two Georgia Power 34.5 kV transmission circuits, one overhead construction and one underground.

Fort McPherson owns and operates an electrical distribution system consisting of:

- one 12.5 kV distribution substation;
- approximately 4.3 circuit miles of overhead primary distribution line; and
- approximately 2.8 circuit miles of underground primary distribution line.

The main substation, which supplies the entire Installation, consists of two incoming 34.5 kV transmission line bays, two 7.5 MVA 34.5 – 12.5 kV transformers, three 333 kVA voltage regulators, and five 12.5 kV feeder vacuum circuit breakers. Georgia Power owns the 34.5 kV switching and protective equipment, and the two power transformers. Fort McPherson owns the 12.5 kV vacuum circuit breakers.

The primary distribution system consists of five 12.5 kV circuits. The distribution system is composed primarily of overhead, pole-line construction (which is conventional, open wire construction) with pole-mounted transformer banks. In addition, there is also a small amount of underground primary construction, utilizing both direct burial and duct type construction practices.

J01.2.1.2 Inventory

Table 1 provides a general listing of the existing major electrical system fixed assets for the Fort McPherson electrical distribution system included in the purchase. The system will be sold in an "as is, where is" condition without any warrant, representation, or obligation on the part of the Government to make any alterations, repairs, or improvements. All ancillary equipment attached to and necessary for operating the system, though not specifically mentioned here in, is considered part of the purchased utility.

PLEASE NOTE: Fort McPherson will require all overhead lines, pole mounted transformers and all overhead facilities to be replaced with underground line, pad mounted transformers, and underground facilities to be placed underground over a 10-year period in a multi-phased approach. The first phase shall be the housing areas. A second separate underground ductbank will also be required for secure facilities, to be conveyed to the Installation for Federal ownership. (See Paragraphs C.3.1 and C11.1). Please note that Fort McPherson contains a significant amount of development and live vegetation.

TABLE 1
1. Fixed Inventory
Electrical Distribution System Fort McPherson

Item	Size	Approx. Quantity	Units	Average Yr. of Construction
Substation Equipment				
12.5 kV Structure / Buswork		6	Bays	1979
12.5 kV VCBs		5	Each	1979
Voltage Regulator		1	Set	1979
Miscellaneous		---	---	1979
Overhead Lines				
12.5 kV / 3 Phase – Large		3.50	Miles	1979
12.5 kV / 3 Phase – Small		0.82	Miles	1981
7.5 kV / 1 Phase		---	Miles	
Group Operated Air Break Switches		8	Each	1986
Secondary		1.08	Miles	1980
Capacitor Banks – 150 kVAR		2	Each	1980
Underground Lines				
12.5 kV / 3 Phase – Large		---	Miles	
12.5 kV / 3 Phase – Small		2.80	Miles	1993
Secondary		0.70	Miles	1980
Pad-mount Sectionalizing Switches		10	Each	2000
Manholes		18	Each	1998
Duct Banks		0.67	Miles	1998
Transformers – Pole Type				

Item	Size	Approx. Quantity	Units	Average Yr. of Construction
	15 kVA & smaller	11	Each	1982
	25 kVA	42	Each	1980
	30 kVA	10	Each	1982
	50 kVA	45	Each	1980
	75 kVA	5	Each	1981
	100 kVA	34	Each	1982
	167 kVA	4	Each	1981
Transformers - Pad Mount				
	1 Phase – 25 kVA	1	Each	1983
	1 Phase – 50 kVA	2	Each	1988
	1 Phase – 100 kVA	3	Each	1981
	3 Phase – 112.5 kVA & smaller	7	Each	1992
	3 Phase – 150 kVA	4	Each	1991
	3 Phase – 225 kVA	1	Each	2000
	3 Phase – 300 kVA	7	Each	1989
	3 Phase – 500 kVA	12	Each	1992
	3 Phase – 750 kVA	4	Each	1991
	3 Phase – 1000 kVA	4	Each	1995
	3 Phase – 2500 kVA	3	Each	1987
Street Lights				
	Fixtures	460	Each	1980
	Poles	153	Each	1980
	Lighting Circuits	4.58	Miles	1980
Services				
	3 Phase	169	Each	1986
	1 Phase	41	Each	1982

Acronyms:

kVA = Nominal Kilovolt Amperes

J01.2.2 Electrical Distribution System Non-Fixed Equipment and Specialized Tools Inventory

Table 2 lists other ancillary equipment (spare parts) and **Table 3** lists specialized vehicles and tools included in the purchase. Offerors shall field verify all equipment and tools prior to submitting a bid. Offerors shall make their own determination of the adequacy of all equipment and tools. The successful Contractor shall provide any and all equipment, vehicles, and tools, whether included in the purchase or not, to maintain a fully operating system under the terms of this contract.

TABLE 2
2. Spare Parts
Electrical Distribution System Fort McPherson

Quantity	Item	Make/Model	Description	Remarks
No spare parts will be available.				

TABLE 3
3. Specialized Equipment and Vehicles
Electrical Distribution System Fort McPherson

Description	Quantity	Location	Maker
No specialized equipment or vehicles for maintenance of the Fort McPherson electrical distribution system will be transferred to the new owner of the system.			

J01.2.3 Electrical System Marking, Manuals, Drawings, and Records Inventory

The Offeror will become compliant with and shall utilize the One Call utility marking service and shall be responsible for marking all Offeror-owned facilities within the Installation. **Table 4** lists the manuals, drawings, and records that will be transferred with the system.

TABLE 4
4. Manuals, Drawings, and Records
Electrical Distribution System Fort McPherson

Quantity	Item	Description	Remarks
Fort McPherson maintains a limited collection of technical manuals, drawings, and records on the installed components of the electrical distribution system. This information will be transferred to the new owner during the transition period. System maps will be available in the technical library.			

J01.3 Current Service Arrangement

Fort McPherson currently purchases electric power at 12.5 kV from Georgia Power Company (Georgia Power) at a single primary delivery point. Two Georgia Power 34.5 kV transmission circuits supply the central commercial area: one overhead construction and one underground.

Annual Power Usage Fort McPherson		
FY	**Total (kWh)**	**Peak Demand (kW)**
2000	42,050,450	8,170
2001	41,536,764	7,814
Avg	41,793,585	7,992
Most Recent 12 months	44,701,385	

As required by this contract, the Contractor shall demonstrate the ability to meet and shall establish any and all requirements to provide electric distribution service to Fort McPherson.

J01.4 Secondary Metering

The Installation will require secondary meters for internal billings of their reimbursable customers, utility usage management, and energy conservation monitoring. The Contractor shall assume full ownership and responsibility for existing and future secondary meters IAW Clause C.3.

J01.4.1 Existing Secondary Meters

Table 5 provides a listing of the known, existing (at the time of contract award) secondary meters that will be transferred to the Contractor. The Contractor shall provide meter readings once a month for all secondary meters IAW H.5 and J01.5 below.

TABLE 5
5. Existing Secondary Electric Meters
Electrical Distribution System Fort McPherson

Location Description	Customer ID	Number of Phases	Meter Manufacturer	Meter Model
Rear of Quarters	1E-70168459	1PH 240V	Sangamo	Type J5S
Rear of Quarters	1W-701268681	1PH 240V	Sangamo	Type J5S
Rear of Quarters	2e-70168671	1PH 240V	Sangamo	Type J5S
Rear of Quarters	2W-70168670	1PH 240V	Sangamo	Type J5S
Rear of Quarters	3E-70168468	1PH 240V	Sangamo	Type J5S
Rear of Quarters	3W-70168470	1PH 240V	Sangamo	Type J5S
Rear of Quarters	4E-70168683	1PH 240V	Sangamo	Type J5S
Rear of Quarters	4W-26783317	1PH 240V	Sangamo	Type J5S
Rear of Quarters	5- 50245699	1PH 240V	Landis&GYR	
Rear of Quarters	6E-70080608	1PH 240V	Sangamo	Type J5S
Rear of Quarters	6W-70168701	1PH 240V	Sangamo	Type J5S
Rear of Quarters	7E-70168674	1PH 240V	Sangamo	Type J5S
Rear of Quarters	7W-70168469	1PH 240V	Sangamo	Type J5S
Rear of Quarters	8E-710686672	1PH 240V	Sangamo	Type J5S
Rear of Quarters	8W-70168673	1PH 240V	Sangamo	Type J5S
Rear of Quarters	9E-701686788	1PH 240V	Sangamo	Type J5S
Rear of Quarters	9W-70168702	1PH 240V	Sangamo	Type J5S
Rear of Quarters	10 26865387	1PH 240V	Duncan	T ypeM.S. II
Rear of Quarters	11E-70168367	1PH 240V	Sangamo	Type J5S
Rear of Quarters	11W-70168391	1PH 240V	Sangamo	Type J5S
Rear of Quarters	12E-70168392	1PH 240V	Sangamo	Type J5S
Rear of Quarters	12W-70168792	1PH 240V	Sangamo	Type J5S
Rear of Quarters	13E-70168389	1PH 240V	Sangamo	Type J5S
Rear of Quarters	13W-70168368	1PH 240V	Sangamo	Type J5S
Rear of Quarters	14E-70168366	1PH 240V	Sangamo	Type J5S
Rear of Quarters	14W-70168390	1PH 240V	Sangamo	Type J5S
Rear of Quarters	15E-70168667	1PH 240V	Sangamo	Type J5S
Rear of Quarters	15W-70168474	1PH 240V	Sangamo	Type J5S
Rear of Quarters	18- 70168784	1PH 240V	Sangamo	Type J5S
Rear of Quarters	19E-70168472	1PH 240V	Sangamo	Type J5S

Rear of Quarters	19W-70168668	1PH 240V	Sangamo	Type J5S
Rear of Quarters	20-70168785	1PH 240V	Sangamo	Type J5S
Pad Mount Transformer	B128-82823002	3PH 120-480V	General Electric	#700X23G1
Pad Mount Transformer	B129-82146639	3PH 120-480V	General Electric	#700X23G1
Pad Mount Transformer	B130-83047783	3PH 120-480V	Westinghouse	E3F111E2HA
Transformer Yard	B131-81288754	3PH 120-480V	Westinghouse	E3F111E2HA
Transformer Yard	B131ac-81288490	3PH 120-480V	Westinghouse	E3F111E2HA
Pad Mount Transformer	B132-31158068	3PH 120-480V	Landis&GYR	Type BMT-6S
Pad Mount Transformer	B-135-31158064	3PH 120-480V	Landis&GYR	
Building	B136B-26794116	1PH 240V	Landis&GYR	Type M.S.II
Building	B137B-70546868	1PH 240V	Sangamo	Type J5S
Building	B138B-95259859	1PH 240V	General Electric	#720X07001
Building	B-139 70546878	1PH 240V	Sangamo	Type J5S

J01.4.2 Required New Secondary Meters

The Contractor shall install and calibrate new secondary meters for each electric service at Fort McPherson. A partial list of new service locations are listed below in Table 6. New secondary meters shall be installed IAW Clause C.17, Transition Plan. After installation, the Contractor shall maintain and read these meters IAW Clauses C.3, H.5, and J01.5 below.

TABLE 6
6. New Secondary Meters
Electrical Distribution System Fort McPherson

Meter Location	Meter Description
New electric meters, where not currently existing, will be required for each existing service including a new meter for each bay per warehouse. Included below are customer identification numbers of locations for new electric meters.	

Location Description	Customer ID
	B-207-83036253
	B-238A-30995943
	B-238B-78706403
	B-248-92556326
	B-250-82823016
	B-312-12279333

	B-315-229552
	B-328-E-328
	B-340-80766554
	B-348-E-348
	B-363A-92516566
	B-363AC-
	B-363AD-7586130
	B-363AE-01264856
	B-363AG-
	B-363B-92567736
	B-363BB-17872264
	B-363C-012648545
	B-365-744X900026
	B-366-36020808
	B-368-95889570
	B-380-7786051
	B-400-80556618
	B-401-80556619
	B-409-E409
	B-421-0321572
	B-448-30586908
	B-475-12269931
	B-476-92679342
	B-477-12269931
	B-478-
	B-479-
	B-480-12269926
	B-482E-
	B-482W-
	B-483-
	B-499-02358704
	B-504-37042035
	B-514-32258067
	B-608-721X070794
	B-65-33017844
	LAKE#1
	LAKE#2-31174073
	LAKE#3-31174103
	LAKE3-31158060
	QTRS-136-26794116
	QTRS-137-70546868
	QTRS-138-95259859
	QTRS-139-70546878
	QTRS-140-70546847
	QTRS-141-26785013
	QTRS-142-75544685
	QTRS-410-95614435
	QTRS-506A-70168789

	QTRS-506B-7068704
	QTRS-507A-70168700
	QTRS-507B-70080609
	QTRS-508A-70168705
	QTRS-508B-70168787
	QTRS-509A-70168476
	QTRS-509B-70168471
	QTRS-510A-701688807
	QTRS-510B-26785011
	QTRS-515A-70169107
	QTRS-515B-70168381
	QTRS-523A-26785014
	QTRS-523B-26783316
	QTRS-524A-70168688
	QTRS-524B-70168804
	QTRS-526A-70168675
	QTRS-526B-70168882
	QTRS-527A-70169106
	QTRS-527B-21705426
	QTRS-528A-70168786
	QTRS-528B-70168808
	QTRS-532-35632906
	QTRS-533A-70168676
	QTRS-533B-70168461
	QTRS-534A-70168680
	QTRS-534B-70168794
	QTRS-535A-70168809
	QTRS-535B-70168466
	QTRS-536A-99087603
	QTRS-536B-70080614
	QTRS-537A-70168796
	QTRS-537B-21705429
	QTRS-538A-70080613
	QTRS-538B-70168781
	QTRS-601A-70168460
	QTRS-601B-70168679
	QTRS-602A-70168465
	QTRS-602B-93577107
	QTRS-603A-70168795
	QTRS-603B-70168697
	QTRS-604A-70168695
	QTRS-604B-70169793
	QTRS-605A-70168692
	QTRS-605B-70168696

J01.5 Monthly Submittals

The Contractor shall provide the Government monthly submittals for the following:

Invoice (IAW G.2). The Contractor's monthly invoice shall be prepared with data items as indicated below. Invoices shall be submitted by the 25th of each month for the previous month. Invoices shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

Outage Report: The Contractor's monthly outage report will be prepared in the format proposed by the Contractor and accepted by the Contracting Officer. Outage reports shall include the following information for Scheduled and Unscheduled outages:

Scheduled: Requestor, date, time, duration, facilities affected, feedback provided during outage, outage notification form number, and digging clearance number.

Unscheduled: Include date, time and duration, facilities affected, response time after notification, completion times, feedback provided at time of outage, specific item failure, probability of future failure, long term fix, and emergency digging clearance number.

Outage reports shall be submitted by the 25th of each month for the previous month. Outage reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

Meter Reading Report: The monthly Meter Reading Report shall include; meter location, location identification number, installation, meter number, meter reader name, meter reading date (month, date), present reading, previous reading, consumption. Meter reading reports shall be submitted by the 15th of each month for the previous month. Meter reading reports shall be submitted to the Contracting Officer's designee. (This information will be provided upon award.)

J01.6 Energy Savings Projects

There are currently no existing energy savings projects for the exterior electric system at Fort McPherson.

J01.7 Service Area

IAW Clause C.4, Service Area, the service area is defined as all areas within the Fort McPherson boundaries.

J01.8 Off-Installation Sites

Lake Allatoona Recreation Site is an offsite area located approximately 45 miles north of Fort McPherson included under CLIN 0005 and CLIN 0006 and as described in Sections J05 and J06.

J01.9 Specific Transition Requirements

IAW Clause C.17, Transition Plan, **Table 7** lists service connections and disconnections required upon transfer, and **Table 8** lists the improvement projects required upon transfer of the Fort McPherson electrical distribution system.

TABLE 7
7. Service Connections and Disconnections
Electrical Distribution System Fort McPherson

Location	Description
Required service connections and disconnections will be provided to the contractor, as the requirements become known.	

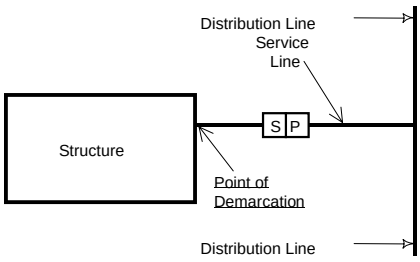
TABLE 8
8. System Improvement Projects
Electrical Distribution System Fort McPherson

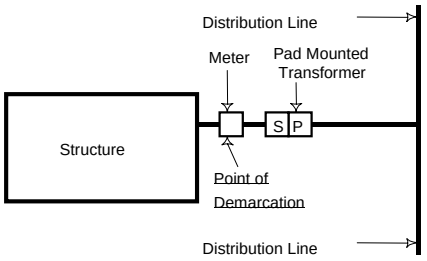
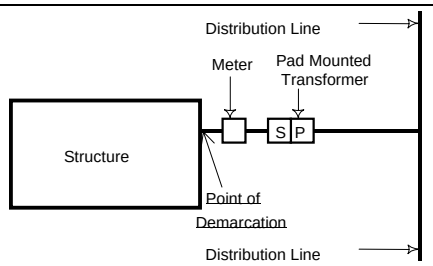
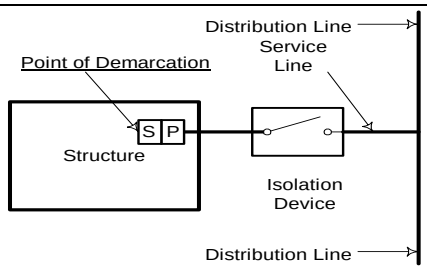
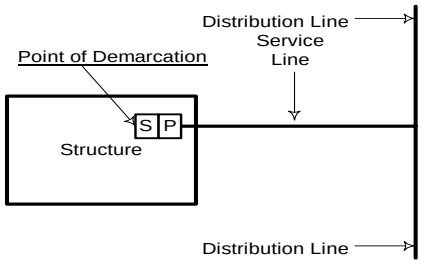
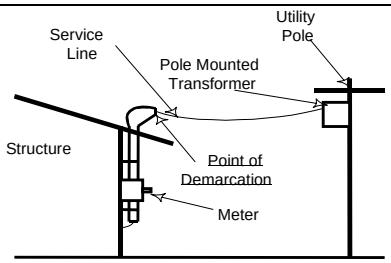
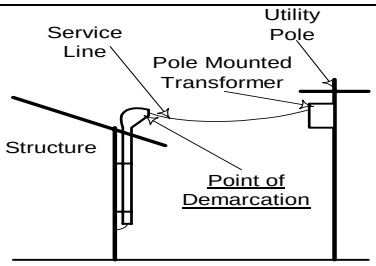
Project Location	Project Description
All overhead electric facilities shall be converted to underground over a maximum 10-year period using a multi-phased approach.	
A separate second utility ductbank shall be constructed in parallel to the high voltage ductbank when the overhead electric distribution system is placed underground. The second ductbank will be built for secure communication lines. Coordination with the Department of Public Works (DPW), Director of Information Management (DOIM), Staff Judge Advocate (SJA), and Installation security personnel will be needed to develop construction requirements and specifications. Planning documents for the high voltage ductbank and the secure/communication ductbank will need to be reviewed and approved by the Installation prior to start of construction.	
Electric meters will be required for each service location, including each bay of any warehouses.	

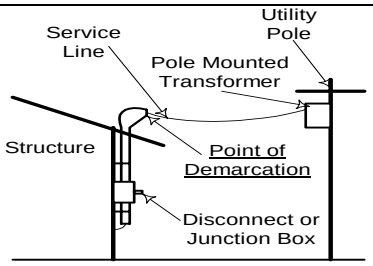
J01.10 Electric Distribution System Points of Demarcation

The point of demarcation is defined as the point on the distribution system where ownership changes from the Grantee to the building owner. This point of demarcation will typically be at the point the utility enters a building structure or the load side of a transformer within a building structure. The table below identifies the type and general location of the point of demarcation with respect to the building for each scenario. During the operation and maintenance transition period, concurrence on specific demarcation points will be documented during the joint inventory of facilities.

TABLE 9
9. Points of Demarcation
Electrical Distribution System Fort McPherson

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the first point of disconnect at or in the facility.	Pad Mounted Transformer located outside of structure with underground service to the structure and no meter exists.	

Point of Demarcation	Applicable Scenario	Sketch
Down current side of the meter	Residential service, and three phase self contained meter installations. Electric Meter exists within five feet of the exterior of the building on an underground secondary line.	
Point of demarcation is the first point of disconnect at or in the facility.	Three Phase CT metered service.	
Secondary terminal of the transformer inside of the structure	Transformer located inside of structure and an isolation device is in place with or without a meter Note: Utility Owner must be granted 24-hour access to transformer room.	
Secondary terminal of the transformer inside of the structure	Transformer located inside of structure with no isolation device in place. Note: Utility Owner must be granted 24-hour access to transformer room.	
Point of demarcation is the point where the overhead conductor is connected to the weather head.	Electric meter is connected to the exterior of the building on an overhead secondary line.	
Point of demarcation is the point where the overhead conductor is connected to the weather head.	Pole Mounted Transformer located outside of structure with secondary attached to outside of structure with no meter.	

Point of Demarcation	Applicable Scenario	Sketch
Point of demarcation is the point where the overhead conductor is connected to the weather head.	Service may be overhead or underground. A disconnect switch or junction box is mounted to the exterior of the structure with no meter.	

J01.11 Unique Points of Demarcation

The following table lists anomalous points of demarcation that do not fit any of the above scenarios.

TABLE 10
10. Unique Points of Demarcation
Electrical Distribution System Fort McPherson

Building No.	Point of Demarcation Description
None	

J01.12 Plants and Substations

TABLE 11
11. Plants and Substations
Electrical Distribution System Fort McPherson

Description	Facility No.	State Coordinates	Other Information
Substation - six bay 12.5 kV structure / buswork, five 12.5 kV VCB's, 3 voltage regulators			

J01.13 Service Response Times

The Offeror shall respond to normal/routine outages within 1 hour. Emergency situations will require 30-minute response. Please indicate in the Technical Proposal (Volume I) how the Offeror will consistently insure meeting these response time requirements.